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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,966	02/27/2004	Arie Johannes de Heer	A de Heer 7-2-2-1 (LCNT/I)	9197
46363 7590 10/24/2007 PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			EXAMINER STEELMAN, MARY J	
			ART UNIT 2191	PAPER NUMBER
			MAIL DATE 10/24/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/789,966

Applicant(s)

DE HEER ET AL.

Examiner

MARY STEELMAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

MARY STEELMAN
PRIMARY EXAMINER

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to Claims, Amendments, and Remarks received 08/21/2007. Per Applicant's request, claim 28 has been amended. Claims 1-28 are pending.

Claim Objections

2. In view of the amendment to claim 28, the prior objection is hereby withdrawn.

Response to Arguments

3. In response to applicant's arguments, the recitation (bottom of page 8) "method for upgrading software in a first bridge operating in a first state in a network containing a plurality of bridges, the first bridge and one or more of the second bridges forming part of a VLAN" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

4. Applicant has argued in substance the following:

(A) Regarding independent claim 1, (page 9, line 3), "By reconfigurations, Fine does not mean performing a software update. Rather Fine is referring to devices being aware of which VLAN configuration protocol is being implemented in the network...."

Examiner's response: Examiner disagrees. Fine disclosed (col. 5: 38-39), additional SST-PDUs (shared spanning tree – protocol data unit) are received, the device replaces stale information (updates) in its association table with newly received information.

Col. 7: 1-16, To identify the various VLAN designations defined throughout the network 100, switches 112-121 and routers 124, 125 typically participate in a VLAN configuration protocol, such as the VLAN Trunk Protocol (VTP) from Cisco Systems, Inc. or the GARP VLAN Registration Protocol (GVRP), that informs each switch and router of the current state of VLAN designations in use throughout the network 100. In accordance with these protocols, each switch 112-121 and router 124, 125 transmits predefined advertisements containing information regarding the current VLAN configuration at the sourcing device. By listening for the advertisements, devices may learn of any re-configuration of the network 100, including deleting an existing VLAN or changing the parameters of an existing VLAN. Thus, the current association of VLAN designations may be quickly propagated to all intermediate devices.

Col. 11: 20, configuring each switch with information

(B). Applicant argues (page 9, 2nd paragraph), “disassociated and wait states described in Fine are states that are implemented in response to certain events...do not include a software update.” Fine does not teach the claimed **suspending operation** of the switch.

Examiner's Response: Examiner disagrees. Col. 18: 29-36, The purpose of the wait state 412 is to ensure that the new association of the given VLAN to a single shared spanning tree is learned

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by all neighbor switches in the network before messages are forwarded (switch is suspended until new association is learned).

Applicant's arguments filed 08/21/2007 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

—(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-9, 12-22, and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,813,250 B1 to Fine et al.

Per claims 1, 14, and 27:

A method for upgrading software in a first bridge operating in a first state in a network containing a plurality of bridges, the first bridge and one or more of the second bridges forming part of a VLAN, the method comprising:

Fine: FIGs. 1 & 2 Col. 6: 16, switches 112 – 121 (bridges)

Col. 6: 40-41, VLANs

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a) sending notification to one or more second bridges that the first bridge is scheduled for upgrading thereby disturbing the first state of operation;

Fine” FIG. 4A, state machine & 4B Col. 7: 11-15, devices may learn of any re-configuration of the network...including...changing the parameters of an existing VLAN Col. 18: 14-18, hibernates in the disassociated state and the switch is prevented from forwarding any tagged data messages

b) suspending VLAN registration information in the one or more second bridges while upgrading the first bridge;

Fine:” Col. 18: 9, disassociated state, wait state... Col. 18: 29-36, In the wait state 412, all ports associated with the given VLAN designation are still blocked from forwarding messages...The purpose of the wait state 412 is to ensure that the new association of the given VLAN to a single shared spanning tree is learned by all

c) restoring the first state of the first bridge;

Fine: Col. 18: 50-55, transitions to the associated state 313...VLAN designation is associated with a single shared spanning tree and the switch is permitted to forward messages

d) sending notification to the one or more second bridges of the network that the upgrading of the first bridge has been completed.

Fine: Col. 18: 50-55, switch is permitted to forward messages Col. 18: 63 – col. 19: 4, for

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messages...to be forwarded out a given port...must be in the associated state 414...port itself must be in the forwarding state as defined by the spanning tree algorithm...

Per claims 2, and 15:

-sending notification further comprises the first bridge sending a GVRP message.

Fine : Col. 3: 33-37, IEEE 802.1Q , virtually segregated network groups, spanning trees Col. 7: 6, GVRP protocol

Per claims 3, 13, 16, and 26:

-the GVRP message uses a customizable attribute event under IEEE802.1D-1998.

Fine: Col. 5: 18, a list of the associated secondary VLANs & shared spanning trees Col. 7: 14, changing parameters...the current association of VLAN designations may be quickly propagated to all intermediate devices.

Per claims 4 and 17:

-once the notification has been sent to one or more second bridges in the network, said one or more second bridges do not expect additional messages from the first bridge subsequent to notification.

Fine: Col. 3: 64 – col. 4: 2 Col. 5: 32-37, association table organized by VLAN designation...associated with none or more than one shared spanning tree, then the state machine engine enters the disassociated state and no data frames ...are forwarded (do not expect additional messages)

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Per claims 5 and 18:

-suspending VLAN registration information comprises suspending the expiration of "Leave All" timers during the upgrading at the first bridge.

Fine: Col. 12: 20-27, transition from blocked mode to the forwarding mode via the listening and learning states in accordance with the spanning tree algorithm

Per claims 6 and 19:

-suspending VLAN registration information comprises suspending a predetermined period of time for removing VLAN registration membership until after the first bridge is upgraded.

Fine: Col. 5: 42-47, enters a wait state Col. 8: 25-54, shared spanning tree state machine engine and spanning tree state machine engine...coupled to an association table...associated with a VLAN designation...these cells contain information relating to the shared spanning tree protocol...coupled to a filtering database...state machine engines preferable comprise programmable processing elements containing software programs pertaining to the methods executable by the processing elements...The state machine engines preferably cooperate to define a plurality of shared spanning trees each of which defines an active topology for one or more VLAN designations.

Per claims 7, 20, and 28:

-restoring the first state of the first bridge further comprises synchronizing GVRP protocol to a VLAN registration table preserved in the first bridge during the upgrade. / restoring a state of

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the first bridge further comprises synchronizing GVRP protocol to a current VLAN membership tables.

Fine: Col. 12: 24-27, a single active topology (i.e., “a shared spanning tree”) is defined Col. 12: 45-48, data frames tagged with primary VLAN designations may be forwarded through the network, since a corresponding active topology has been defined Col. 12: 64-67, start formulating SST-PDUs for transmission out those port Col. 14: 50-51, Engine 240 (shared spanning tree engine) then proceeds to enter this information into its association table 244.

Per claims 8 and 21:

-a port of the first bridge is dynamically configured for a certain VLAN and is registered as a member of that VLAN, the synchronizing results in a corresponding Registrar state machine assuming an In (IN) state.

Fine: Col. 8: 28, SST engine 240 Col. 14: 50-51, Engine 240 then proceeds to enter this information into its association table 144 Col. 15: 38-67, timers used to synch association tables

Per claims 9 and 22:

-a port of the first bridge is dynamically configured for a certain VLAN and is not registered as a member of that VLAN, synchronizing results in a corresponding Registrar state machine assuming an Empty (MT) state.

Fine: Col. 14: 53-54, If an entry does not exist (is not registered), it is created by engine 240.

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Per claims 12 and 25:

-sending notification to one or more second bridges that the upgrading of the first bridge has been completed comprises sending a normal GVRP message to one or more frozen ports of said one or more second bridges.

Fine: Col. 9: 67 – col. 10: 2, These fields specify respective destination and source port interface circuitry (send to ports when ready).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10, 11, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,813,250 B1 to Fine et al., in view of US Patent Application Publication 2005/0080912 A1 to Finn, and further in view of ANSI / IEEE Std 802.1D, 1998 Edition.

Per claims 10, 11, 23, and 24:

Fine failed to provide explicit details regarding:

-for a certain port and VLAN, the corresponding Applicant state machine assumes a Very Anxious Active Member state (VA), if at least one Registrar state machine for this VLAN associated to another active port of the same node is in an IN state. (state is consistent)

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-for a certain port and VLAN, the corresponding Applicant state machine assumes a Very Anxious Observer state (VO), if no Registrar state machine for this VLAN associated to another active port of the same node is in an IN state. (state is not consistent)

However Finn disclosed [0014-0015], the 802.1D 1998 edition of the IEEE Std. A framework that allows participants to make and withdraw declarations for generic attributes. Other network participants register the parameter values of the specified attribute at the port on which the declaration was received. The GID component consists of a set of state machines that define the current registration and declaration state for all attribute values.

[0016], In order to exchange information among the GARP participants disposed within a given intermediate device, a separate component, called the GARP Information Propagation (GIP) component, is used. The GIP component operates over a GIP context that is established at the intermediate device and defines the ports that are to be included in the given context...a GIP context may consist of the ports that belong to the active topology (i.e., all ports in the forwarding spanning tree state). {0068}, Event Code Table, [0069], IN event, [0078] Applicant State Machine / VA / VO.

See ANSI/IEEE Std 802.1d, 1998 Edition Part 3: Media Access Control (MAC) Bridges for terms defined for Very Anxious Active Member state (VA) and Very Anxious Observer state (VO) and IN state.

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Therefore, it would have been obvious, to one of ordinary skill in the art, at the time of the invention, to modify Fine, using the teachings of Finn and ANSI/IEEE Std 802.1D, 1998 Edition, because Fine associated VLAN designations to shared spanning tree, defining a separate forwarding topology for each VLAN (Fine: Col. 4: 3). Finn disclosed a need for [0020], efficiently conveying large amounts of VLAN membership information across computer networks. Finn disclosed [0021] a plurality of state machines to track the registration state of all of the VLANs of which the port has been made aware.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (571) 272-3704. The examiner can normally be reached Monday through Thursday, from 7:00 AM to 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached at (571) 272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mary Steelman

10/18/2007

MARY STEELMAN
PRIMARY EXAMINER

